

In the claims:

Please substitute the following full listing of claims for the claims as originally filed or most recently amended.

1. (Currently Amended) A voltage regulator for an electrical device having a plurality of operating modes having differing current consumption, said voltage regulator comprising

a regulator stage having an input for receiving an input voltage, and

a V_{bus} supply regulator stage having an input for receiving information corresponding to an operational mode of said electrical device and supplying a voltage corresponding to said operational mode or said current consumption as said input voltage to said regulator stage such that said input voltage is larger for higher steady state current consumption and lower for lower steady state current consumption.

2. (Currently Amended) A voltage regulator as recited in claim 1, wherein said electrical device exhibits a working mode and a sleep mode and said V_{bus} supply regulator stage supplies a first voltage corresponding to said working mode and a different voltage corresponding to said sleep mode.

3. (Currently Amended) A voltage regulator as recited in claim 2, wherein said electrical device is a CPU and said regulator stage supplies a varying voltage corresponding to current required by said CPU.

4. (Original) A voltage regulator as recited in claim 1, wherein said V_{bus} supply regulator stage provides one of two discrete voltages.

5. (Currently Amended) A voltage regulator as recited in claim 1, further comprising

a ramp generator for generating a ramp waveform having an amplitude corresponding to said ~~selected~~ input voltage for control of said regulator stage.

6. (Original) A voltage regulator as recited in claim 1, further including

a feedback loop in said V_{bus} supply regulator stage.

7. (Original) A voltage regulator as recited in claim 6, wherein said feedback loop includes an R_{tilt} resistor.

8. (Original) A voltage regulator as recited in claim 6, further including

a feedback loop in said regulator stage including signal paths for signals corresponding to output voltage and output current of said voltage regulator, respectively.

9. (Original) A voltage regulator as recited in claim 8, wherein said signal path for said signal corresponding to output voltage includes an R_{droop} resistor.

10. (Currently Amended) A voltage regulator as recited in claim 8, further including

a connection for supplying said signal corresponding to said output current to said feedback loop of said V_{bus} supply regulator stage for making an adjustment to a said input voltage.

11. (Original) A voltage regulator as recited in claim 10, wherein said adjustment to said voltage provides a continuous range of voltages.

12. (Original) A voltage regulator as recited in claim 11, wherein said regulator stage comprises a plurality of parallel voltage regulator circuits

13. (Original) A voltage regulator as recited in claim 12 wherein operation of selected ones of said parallel voltage regulator circuits may be discontinued in response to current load requirements.

14. (Currently Amended) An electrical device comprising

- a load having a plurality of operating modes having differing current consumption, and

- a voltage regulator, said voltage regulator including

- a regulator stage having an input for receiving an input voltage, and

- a V_{bus} supply regulator stage having an input for receiving information corresponding to an operational mode or current consumption of said electrical device and supplying a voltage corresponding to said operational mode or current consumption as said input voltage to said voltage regulator stage such that said input voltage is larger for higher steady state current consumption and lower for lower steady state current consumption.

15. (Original) An electrical device as recited in claim 14, further including

- a feedback loop in said V_{bus} supply regulator stage.

16. (Original) An electrical device as recited in claim 15, wherein said feedback loop includes an R_{tilt} resistor.

17. (Original) An electrical device as recited in claim 15, further including
a feedback loop in said regulator stage including signal paths for signals corresponding to output voltage and output current of said voltage regulator, respectively.

18. (Original) An electrical device as recited in claim 17, wherein said signal path for said signal corresponding to output voltage includes an R_{droop} resistor.

19. (Original) An electrical device as recited in claim 17, further including
a connection for supplying said signal corresponding to said output current to said feedback loop of said V_{bus} supply regulator stage for making an adjustment to a said voltage.

20. (Original) An electrical device as recited in claim 19, wherein said adjustment to said voltage provides a continuous range of voltages.